

WHAT IS CLAIMED IS:

1. An On-Board wireless transaction system used in a motor vehicle and adapted for connecting through a GSM wireless network to one of a number of shops contracted with an issuing organization to order commodities and to complete the transaction, said issuing organization issued multiple fare cards, said fare cards each having a respective PIN (personal identification number) and a predetermined number of value-added points, said shops each having a shop-end computer, said shop-end computer having a GSM modem adapted for receiving an order from the On-Board wireless transaction system of said motor vehicle, the On-Board wireless transaction system comprising:

an ordering device adapted for inputting an ordering demand to order at least one commodity and to produce a transaction data corresponding to the ordering demand, said transaction data including transaction points to be deducted due to the purchase of the at least one commodity been ordered;

a card reader/writer adapted for reading data from the fare card, or writing data into the fare card;

a GSM modem adapted for connecting to said GSM wireless network for data transmission; and

a microprocessor adapted for receiving the transaction data produced by said ordering device, controlling said card reader/write to read the PIN and value-added points of the fare card and to compare the value-added points of the fare card with the transaction points, controlling the GSM modem of the On-Board wireless transaction

system to transmit the PIN of the fare card and the transaction data through said GSM wireless network to the GSM modem of the shop-end computer of the respective contracted shop, if the number of the value-added points of the fare card is not smaller than the transaction points, for enabling the respective contracted shop to provide the commodity, calculating balance points of the fare card after deduction of the transaction points from the value-added points, and controlling the card reader/writer to write the balance points into the fare card after each transaction.

2. The On-Board wireless transaction system as claimed in claim 1, wherein said issuing organization provides a shop card to each of said contracted shops, said shop card having stored therein a PIN (personal identification number) of the respective contracted shop and accumulated points; the shop-end computer of each of said contracted shops comprises a card reader/writer adapted for writing data in the shop card of the respective shop, or reading data from the shop card.

3. The On-Board wireless transaction system as claimed in claim 1, wherein the shop-end computer of each of said contracted shops is adapted for calculating the accumulated transaction points corresponding to every PIN of the fare card for providing a bonus accumulated points promotion.

4. The On-Board wireless transaction system as claimed in claim 1, wherein the shop-end computer of each of said contracted shops is connected to said issuing organization through a PSTN (public switch telephone network) to ask for payment.

5. The On-Board wireless transaction system as claimed in claim 4, wherein the shop-end computer of each of said contracted shops further comprises a financial exchange terminal connected to said issuing organization for data transmission.

6. The On-Board wireless transaction system as claimed in claim 1, wherein the shop-end computer of each of said contracted shops comprises memory means adapted for storing multiple transaction data.

7. The On-Board wireless transaction system as claimed in claim 1, wherein said fare card is an IC chip card.

8. The On-Board wireless transaction system as claimed in claim 1, said transaction data further includes at least one data chosen from transaction time, commodity code and/or name, commodity unit price, and quantity.

9. The On-Board wireless transaction system as claimed in claim 1, wherein the card reader/writer of the On-Board wireless transactions system is further adapted for writing at least one data chosen from transaction time, commodity code and/or name, commodity unit price, and quantity into the fare card.

10. An On-Board wireless transaction method used in an On Board Unit of a motor vehicle for ordering commodities from one of a number of shops contracted with an issuing organization through a GSM wireless network and completing the transaction, said On Board Unit comprising an ordering device, a card reader/writer, and a GSM modem, said issuing organization issued multiple fare cards, said fare cards each having a respective PIN (personal identification number) and a

predetermined number of value-added points, said shops each having a shop-end computer, said shop-end computer having a GSM modem adapted for receiving an order wirelessly from said On Board unit of said motor vehicle, the On Board wireless transaction method comprising the steps of:

- A) Using said ordering device to input an ordering demand, said ordering demand including a transaction data of transaction points to be deducted due to the purchase of at least one commodity been ordered, and controlling the card reader/writer of said On Board unit to read the PIN and the value-added points of the fare card;
- B) Calculating balance points of the fare card after deduction of said transaction points from said value-added points; and
- C) Driving the GSM modem of said On Board Unit to wirelessly transmit the PIN of the fare card and the transaction data to the GSM modem of the shop-end computer of the contracted shop, and then driving the card reader/writer of said On Board Unit to write the balance points into the fare card to complete the transaction.

11. The On-Board wireless transaction method as claimed in claim 10 further comprising, after Step C), step D of driving the card reader/writer of said On Board Unit to write at least one data chosen from transaction time, commodity code and/or name, commodity unit price, and quantity in the fare card.

12. The On-Board wireless transaction method as claimed in claim 10, wherein said Step C) comprises the sub-steps of:

- 1) Driving the GSM modem of said On Board Unit to wirelessly

transmit the PIN of the fare card and the related transaction data to the GSM modem of the shop-end computer;

- 2) Driving the connected shop-end computer to recognize the correctness of the PIN of the respective fare card and the related transaction data;
- 3) Driving the GSM modem of the connected shop-end computer to send back a recognition code to the GSM modem of said On Board Unit; and
- 4) Driving the card reader/writer of said On Board Unit to write the balanced points into the fare card to complete the transaction.

13. The On-Board wireless transaction method as claimed in claim 10, wherein said issuing organization provides a shop card to each of said contracted shops, said shop card having stored therein a PIN (personal identification number) of the respective contracted shop and accumulated points; the shop-end computer of each of said contracted shops comprises a card reader/writer adapted for writing data in the shop card of the respective shop, or reading data from the shop card.

14. The On-Board wireless transaction method as claimed in claim 10, wherein the shop-end computer of each of said contracted shops is adapted for calculating the accumulated transaction points corresponding to every PIN of the fare card for providing a bonus accumulated points promotion.

15. A computer readable recording medium used in an On Board Unit of a motor vehicle, said recording medium comprising a software program adapted for ordering commodities from one of a number of

shops contracted with an issuing organization through a GSM wireless network and completing the transaction, said On Board Unit comprising an ordering device, a card reader/writer, and a GSM modem, said issuing organization issued multiple fare cards, said fare cards each having a
5 respective PIN (personal identification number) and a predetermined number of value-added points, said shops each having a shop-end computer, said shop-end computer having a GSM modem adapted for receiving an order wirelessly from said On Board unit of said motor vehicle, the software program comprising:

10 first program code means adapted for receiving an ordering demand inputted through said ordering device, said ordering demand including a transaction data of transaction points to be deducted due to the purchase of at least one commodity been ordered;

15 second program code means adapted for controlling the card reader/writer of said On Board unit to read PIN and the value-added points of the fare card;

third program code means adapted for calculating balance points of the fare card after deduction of said transaction points from the value-added points;

20 fourth program code means adapted for controlling the GSM modem of said On Board Unit to wirelessly transmit the PIN of the fare card and the transaction data to the GSM modem of the shop-end computer of the contracted shop; and

25 fifth program code means adapted for controlling the card reader/writer of said On Board Unit to write the balance points into the

fare card to complete the transaction.

16. The recording medium as claimed in claim 15 further comprising sixth program code means adapted for controlling the card reader/writer of the On Board Unit to write at least one data chosen from
5 transaction time, commodity code and/or name, commodity unit price, and quantity into the fare card.

17. The recording medium as claimed in claim 15 further comprising seventh program code means adapted for receiving a recognition code from the shop-end computer of the contracted shop, and
10 driving said fifth program code means to control the card reader/writer of said On Board Unit to write the balance points into the fare card to complete the transaction.

18. The recording medium as claimed in claim 15, wherein said issuing organization provides a shop card to each of said contracted
15 shops, said shop card having stored therein a PIN (personal identification number) of the respective contracted shop and accumulated points; the shop-end computer of each of said contracted shops comprises a card reader/writer adapted for writing data in the shop card of the respective shop, or reading data from the shop card.

20 19. The recording medium as claimed in claim 15, wherein the shop-end computer of each of said contracted shops is adapted for calculating the accumulated transaction points corresponding to every PIN of the fare card for providing a bonus accumulated points promotion.